

Resident Management System Contractor's Guide



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While every precaution has been taken in the preparation of this manual, the U.S. Army Corps of Engineers and the author assume no responsibility for damages resulting from the use of information contained herein.

The sample project in this manual is based on a real project, the Yuma Proving Ground Support Maintenance Facility. However, much of the data was modified to better illustrate the features of the QC module and should not be construed to reflect the facts of that project.

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CHAPTER 1: QC MODULE BASICS

This chapter presents basic information about the QC module. You will learn:

how this manual is designed

what hardware and software you need

how to install and run the QC module

how the menu system is structured, how to navigate within it, how to know where you

how to use the special features of the input screens: color coding, memo fields, lookup tables

how to use help screens, function keys and special key combinations how to view and print reports

Purpose of the QC Module

The Quality Control (QC) module of RMS was developed to assist the contractor in providing contract required data to the Corps of Engineers. Furthermore, by taking advantage of the monitoring and reporting aspects of this module, the contractor can better perform quality control activities.

About this Manual

This Contractor's Guide is designed to give detailed, easy to understand instructions on how to use the QC module. It assumes that the user has an understanding of Corps policy and the construction business in general but it does not require any previous computer knowledge. There are four chapters in the Guide.

- 1. QC Module Basics: System requirements, installation, menus, input screens, special keys, reports
 - 2. Exchanging Data: Importing and exporting data

3. Project Planning and

Management: Initial planning and daily management of a project

4. File Maintenance Reindex, backup and restore files

Typographic Conventions

To make it easier for you to use this guide, the same symbols and type styles are used consistently. These are:

[Enter] Square brackets when a particular key is to be pressed

INSTALL Upper case bold for letters and numbers to be entered from the

keyboard

Future Projects Italics when a menu option is to be chosen. When a menu item is referenced in the text, it will be shown with initial caps only.

NOTE

Important points are prefaced with NOTE in bold type. Be sure to read these carefully.

On the QC screens as well as in this documentation, these conventions are used:

A double-headed arrow next to a data entry field indicates that a lookup table is associated with that field. (See page 1-11 for more information.)

The paragraph symbol next to a data entry field indicates a full screen memo field. (See page 1-12 for more information.)

¶ \$\dagger\$ A field with both symbols is a memo field that allows the import and export of ASCII text files. (See page 1-12 for more information.)

When data entry fields are defined, fields with distinctive characteristics are indicated by these words:

Calculated A field that is calculated from entries made in other fields; calculated fields are usually display only fields

Display A field that cannot be changed at this location; it is either saved permanently, calculated from other fields or must be edited on another screen

Lookup A field with an associated lookup table; indicated by the double-headed arrow A full screen memo field allowing unlimited text entry; indicated by the paragraph symbol

Required A field that must be filled in before the entry can be saved

Hardware/Software Requirements

Hardware:

Personal computer with a 386 or higher processor
Four megabytes (MB) of RAM
16 MB disk space for the QC system; 1-3 MB per project, depending on project size
3.5" high density floppy drive
Color monitor
HP LaserJet Series III or later printer (or compatible)

Software:

MS-DOS, version 5.0 or later (The QC module will work under Windows 3.1 or 95.)

System Configuration

The following lines must be included in your CONFIG.SYS file.

FILES = 150

The QC module requires a minimum of 120 file handles. In addition, the operating system and other applications may be using file handles at the same time. If you are running on a network and/or running multiple applications at the same time, you will have to increase this amount appropriately. Although you may be able to run with less, setting FILES to 150 should handle most needs. The maximum setting is 255. Some networks have a file setting in the user login script that overrides the CONFIG.SYS setting, so be sure to check your network documentation as needed.

DEVICE = C:\DOS\HIMEM.SYS

The QC module is a protected mode application and requires an extended memory manager such as HIMEM.SYS. To install this on your system, add the above line, substituting the correct path for the most current HIMEM.SYS file. Usually, it can be found in the DOS or Windows directory.

Add the following lines to your AUTOEXEC.BAT file, as required.

SHARE /F:6000 /L:500

This program installs file sharing and locking capabilities on your disk drives. The default setting for SHARE.EXE must be overridden to allocate enough locks for the system. To do this, add or change the SHARE command as shown above.

The share command must be used on peer-to-peer networks, such as LANTASTIC or Windows for Workgroups. It is not necessary on server-workstation networks like Windows NT, Novell or Banyan.

SET RMSPRINT=LPT2 (example)

By default, all output is sent to LPT1. If necessary, you can override the default by setting the environment variable RMSPRINT to the desired printer port.

SET TEMP=C:\TEMP (example)

During operation, the QC module sometimes creates temporary files. The default location for storing temporary files is the TEMP directory under the QC data path (see below). If the TEMP environment variable is set, it will override the default and all temporary files will be stored in the directory specified by TEMP. Network users should set the TEMP variable to a local drive to avoid unnecessary network traffic.

C:\DOS\SMARTDRV.EXE (with parameters)

The QC module does a great deal of reading and writing to your hard drive. Its performance will be improved by implementing a disk caching program like SMARTDrive. Consult your system documentation for details on installing this or another disk caching program.

Data Path Specification

The data path for the QC module is determined in one of the following ways:

Default Drive QC project data is normally stored in subdirectories under the QC main directory (where QC.EXE is located).

Alternate Drive If you are running on a network or if your hard disk is partitioned, you may want to store the QC data in an alternate drive. To do this, add the following line to the AUTOEXEC.BAT file:

SET QCDATA=D: (replace *D*: with the drive for the QC data)

Network users will need to add this line to the AUTOEXEC.BAT file of every workstation.

The drive letter may be different on different workstations.

Installing the QC Module

- 1. IF YOU ARE INSTALLING AN UPDATE TO THE QC MODULE, BACKUP ALL EXISTING DATA BEFORE YOU PROCEED!
- 2. Begin the installation according to the directions that came with your disks. A red warning message reminds you to backup your data before installing.
- 3. All your available drives and the space available on each will be shown. Press the letter for the drive of your choice or arrow to it and press [Enter]. If a network drive is selected, another box appears and asks Shall we use it? Press Y or N.
- 4. Enter the drive and path where you have or want the QC module installed or press [Enter] to use the default C:\QC.
 - 5. The installation will proceed. Insert the additional disks when requested.
 - 6. When all the files have been copied, you are asked how the QC module should handle possible necessary changes to your CONFIG.SYS file. Your choices are:

Go ahead and modify Create example files Bypass these changes

If you choose either of the first two options, you will be asked to indicate your computer's true boot drive and the path to your CONFIG.SYS file.

7. If you are installing an update, the QCUPDATE program will check your existing data files and change them to the correct format as necessary. (See Data Validation on page 1-5.)

Running the QC Module

To start the QC module from the DOS prompt: Change to the drive on which the QC module is located. Change to the QC directory by typing $\mathbf{CD} \setminus \mathbf{QC}$ (or whatever your directory is called). Start by typing \mathbf{QC} .

To setup the QC module in Microsoft Windows 3.1 or Windows 95: In your Windows documentation, follow the directions for setting up a new program. Use C:\QC\QC.EXE as the command line.

Use **C:\QC** as the working directory.

(If you did not use the default C:\QC, type in your actual drive and directory instead.)

NOTE: The QC module will be installed in the directory you specify. The default is C:\QC.

Several subdirectories will be created; these are:

Library: system library data files

Offices: (included to maintain consistency with RMS)
Staff: (included to maintain consistency with RMS)
Summary: (included to maintain consistency with RMS)
System: defaults, fonts, help and other system-wide files

Temp: temporary files (If you have a TEMP variable set in your

AUTOEXEC.BAT file, the temporary files will be stored there.)

Each project you add will be stored in its own subdirectory, which is created at the time of the first government import. Each project subdirectory will, in turn, have these additional subdirectories:

Letter: (included to maintain consistency with RMS)

Pending: import data from the government In: import data from SDEF

Data Validation

For the QC module to run properly, all required database and index files must be located in their correct subdirectories and must be of the proper structure. The QCUPDATE.EXE program checks all files to ensure that they are in the correct location and are of the correct format for your version of the QC module. In addition, QCUPDATE recreates all required index files. If there are invalid or missing database and index files, it attempts to fix them. If it cannot, a runtime error will be generated. If this happens, print the error and contact your QA representative for further assistance.

BACKUP YOUR DATA BEFORE RUNNING OCUPDATE. To run QCUPDATE:

From a DOS prompt, change to the QC directory, type **QCUPDATE** and press [Enter]. From Windows, select *File*, *Run*, type **C:\QC\QCUPDATE**, then click on [OK]. (Insert the correct drive and path if you are not using C:\QC.)

Technical Support

Your QA representative is available to answer any questions you have regarding the QC module.

The Menu System

There are two types of menus: the full screen menu and the menu bar. As its name implies, a full screen menu takes the entire screen. The QC opening menu, shown below, is an example. The menu bar is displayed across the bottom of a screen and indicates the tasks you can perform from that screen. It can show from one to fourteen options. On the opening menu, Quit is the only menu bar option.

NOTE: When you are finished working in the QC module, always return to the opening menu and type **Q** to exit. Turning off your computer without exiting properly can damage your files.

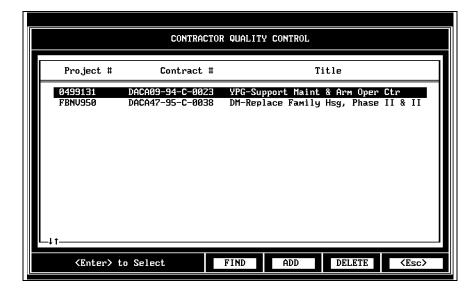


Full Screen Menu

To choose an option from a full screen menu, use the cursor keys to move to your choice and press [Enter] or type the number of your selection.

Select Project Menu.

You will get a list of projects from which to make your selection.



List of Projects

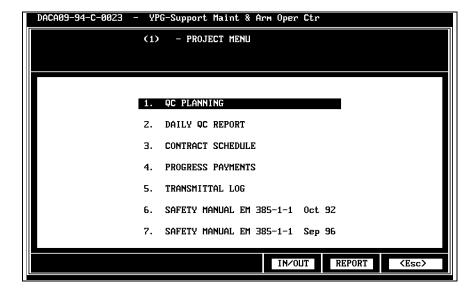
Use your cursor to highlight the project you want, then press [Enter]. You can also use Find if you have several projects.

The YPG-Support Maint & Arm Oper Ctr (Yuma Proving Ground Support Maintenance Center) is the sample project for this manual.

Notice the additional menu bar options on this screen.

Menu Navigation

Most work in the QC module is in the Project Menu choice, shown below, and also called the Main Menu. There are several levels of menus necessary to organize all the required tasks. To help keep track of where you are in the system, there are two important reminders: the project bar and the title/status bar.



Project Main Menu

After a project is chosen, the main menu appears.

Project Bar

The very top line shows the selected project with its contract number. No matter where you are, you will always know which project is currently chosen.

Title/Status Bar

The next centered line shows your location in the menu system. On your computer screen, it is red on a blue background, making it easy to see. When you are adding or changing data, this bar

DACA09-94-C-0023 - YPG-Support Maint & Arm Oper Ctr

(1) - PROJECT MENU
(3) - CONTRACT SCHEDULE

1. ACTIVITY SCHEDULE
2. RECOMPUTE TOTAL FLOAT

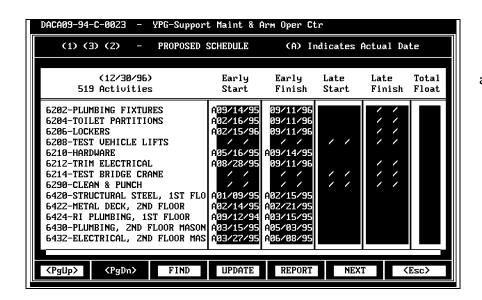
shows your options, e.g. [F10] Save & Exit. It also displays messages, e.g. Error-This entry must be chosen from lookup table!

Choose *Contract Schedule* from the above main menu; you will get this screen.

Again, the top title bar shows you where you are:

- (1)-Project Menu;
- (3)-Contract Schedule.

Note the menu bar at the bottom. In/Out or Reports can be accessed or the next project can be selected.



Proposed Schedule

Now you are at the actual data entry screen.
All along the way, the QC module keeps you informed as to your whereabouts.

There are three ways to leave a full screen menu:

- 1. Press [Esc] to return to the previous menu.
 - 2. Type **M** to return to the main menu.
- 3. Type \mathbf{Q} to quit a menu and return to the QC opening menu. (Typing \mathbf{Q} from the opening menu will quit the QC module.)

Menu Bar

Menu bar options will vary, depending on your place in the system. The sample below shows a



typical menu bar for a data entry screen. If the menu item is highlighted in black, it is ready to be chosen (see HOME below). If it is red, the option is active, e.g. ADD is red when a record is being added.

To choose an option:

Use the arrow keys to highlight the option you want and press [Enter], OR

Type the first letter of the

option you want, e.g., type A to add a new entry, OR

Press the appropriate key, e.g., [Home]

Menu Bar Options

The menu bar options shown on the previous screen are described below. Not every option can be accessed from every data entry screen. Only the options relevant to the data being entered are available.

[Home] Goes to the first record in the current file.

[End] Goes to the last record in the current file.

[PgUp] Displays the previous record(s) or the previous screen.

[PgDn] Displays the next record(s) or the next screen.

ADD Displays a new record input screen.

FIND Prompts you for the data in a specific field. Type the characters, press [Enter] and that record will be shown. Find is case sensitive so upper and lower case letters must match exactly. If no exact match is found, the closest match will be displayed.

EDIT Allows changes to both blue and orange fields. (See Color Code on page 1-10)

BROWSE Accesses a list of all the records in the current file. If there is more data than will fit on the screen, up-down-left-right arrows in the bottom left corner indicate the direction of additional data. The menu bar on each browse screen has an Update option, allowing you to change some of the data there. Or, you can highlight any record in the list and press [Enter] to access the input screen for that record.

UPDATE Allows changes to orange fields. (See Color Code on page 1-10)

REPORT Accesses a list of available reports.

DELETE Removes the current record or entire project, depending on the context. You will be asked to confirm the deletion.

NEXT Returns you to the list of projects. After a project is selected, you are returned to the same screen. For example, after entering transmittals for one project, type N to select the next project. Choose another project; you will return to the transmittal log where transmittals can be entered for the new project.

MAIN Returns you to the main menu. This menu can also be accessed by typing M from most screens.

[Esc] Returns to the previous screen. If you are in Add, Edit or Update, Esc can cancel the additions or changes. You will be asked to confirm. Esc can also cancel other operations such as report printing, backup and restore, and re-indexing.

The following menu bar options are available in special circumstances.

IN/OUT Allows you to import and export data to/from the government and to import SDEF data.

COPY Allows you to copy approved data to proposed. (This option is available from the Review/Copy screens.)

Quit Available on the opening menu; allows you to quit the QC module. Typing Q from other screens will return you to the opening menu.

Input Screens

Color Code

QC module input screens are color-coded to make data entry easier.

Overall screen: Black characters on a white background; these are the data entry field

descriptions and other informational data.

Display fields: White characters on a gray background; these fields cannot be changed on

this screen. Sometimes they are taken from entry done by the government or in other parts of the QC module; sometimes they are calculated from

other fields.

Edit fields: White characters on a blue background; these fields are the less frequently

changed fields; change them by choosing EDIT on the menu bar; fields

change to black on orange when EDIT is chosen.

Update fields: Black characters on a orange background; these fields are the more

frequently changed fields; change them by choosing EDIT or UPDATE on

the menu bar.

Cursor: White characters on a orange background; this allows you to easily locate

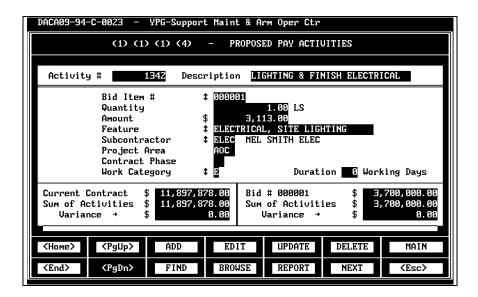
your cursor when in the EDIT or UPDATE modes.

EDIT vs UPDATE: To speed data entry, fields are designated as either EDIT or UPDATE fields. The EDIT fields are usually at the top of the screen and contain data that remains relatively constant throughout the life of the project. UPDATE fields contain data which changes as the project progresses. By choosing UPDATE from the menu bar, the blue EDIT fields are skipped. The cursor begins on the more routinely changed pieces of information, making data entry more efficient. If you choose EDIT, both types of fields can be changed.

COLOR CHART			
Field Type	Character Color	Background Color	
Overall Screen	Black	White	
Display Fields	White	Gray	
Edit Fields	White	Blue	
Update Fields	Black	Orange	
Cursor	White	Orange	

Lookup Tables

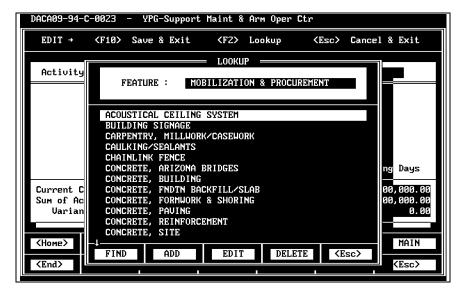
An up-down arrow symbol \(\frac{1}{2}\) beside a data entry field indicates there is a lookup table available with a list of choices for that field. The screen below shows several fields with lookup tables.



Lookup Tables for:

Bid Item #
Feature
Subcontractor
Work Category

If you know the data that should go in the field, you can type it directly, making sure that the case is correct. Generally, any entry that is not in the lookup table will not be allowed in the field. An error message will show in the red title/status bar if your entry is invalid.



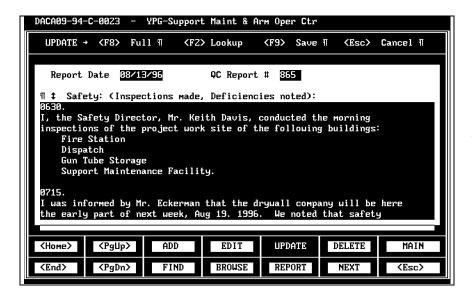
Lookup Table Screen for Feature

To access a lookup table, place the cursor on the field and press [F2]. Use the up and down arrow keys to highlight the selection you want and press [Enter]. The QC module will automatically place this data in the field.

The arrow in the lower left corner of the lookup window indicates there is more data below the cursor. Some tables are more than one screen long. Some lookup table screens have an Add choice on the menu bar. If the entry you need is not listed, you can add it by typing **A** to access the entry screen for this lookup table. Add the new item, press [F10] to save it and the entry can then be chosen from the lookup table.

Memo Fields

QC memo fields allow unlimited input. They are indicated by a paragraph symbol ¶ next to the field. One example is in QC Narratives, (1) (2) (2). You have an unlimited amount of space to enter comments on a variety of QC topics. Only a certain number of lines display on the screen; however, more of the field can be displayed by moving the cursor to that field and pressing [F8]. This switches the field to full screen mode. Press [F8] again to go back to the regular display. Press [F9] to save a full screen memo field and go on to the next field.

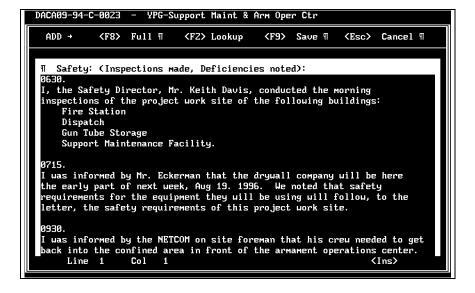


OC Narrative Screen

This screen is in regular display mode.

Note the directions in the title/status bar at the top of the screen.

In a memo field that also has the double-arrow lookup symbol, pressing [F2] accesses an import/export text function. You can write your text in a word processor then import it into the field. You can also export the text you have written and make it a part of a larger report. Text to import must be in ASCII format. Exported text is saved in ASCII format in the main QC directory (C:\QC in a default installation).



QC Narrative Screen in Full Screen Mode

Pressing [F8] allows you to see more of the narrative.

The Line and Column counters at the bottom of the screen help you keep track of where you are in the memo.



On-Line Help

Help Screen

Context sensitive, on-line help is available at various places in the system.

Pressing [F1] accesses help on your current task. An example of the help available for the

Responsibility Code field on the Contractor Staff screen (1) (1) (1) (1). The top of

the screen will tell you the version of the QC module you are using.

You can edit the NOTES area and add your own reminders. To access this memo field, type **E** for Edit. Press [F10] to end editing the notes.



Function Keys and Key Combinations

The QC module provides several short-cut keys to save time entering data.

This list of keys is displayed when you choose the KEYS option from an on-line help screen (see screen above).

Further information on how

these keys work is provided on the next page.

Function Keys

- [F1] Accesses the on-line help screen for the current menu option or data entry field.

 [F2] Accesses a lookup table for a field with the lookup symbol.
- [F3] Lets you set a specific date, other than the current date, for use in data entry or report generation. This date is set within the QC module only and will not affect your computer's system date or any other program. Be sure to reset the date to today when you are finished with this particular task so other QC functions are not affected. NOTE: Rebooting your computer will also reset the date to the computer
- [F4] When the cursor is on a date field, pressing F4 automatically enters the date you specified with F3 or, if no date is specified, enters the current computer date.
- [F5] Lets you set a specific date to be printed on reports. This date will appear on all reports until it's reset or until the system is rebooted; does not change the F4 auto date.
- [F6] Carries over the data entered in a field to the same field on the next added record. For example, you have several pay activities to enter for a particular feature. These activities are all being done by the same contractor. Enter the data for the first activity and press F6 while on the feature field and again on the contractor field. Each new record you enter will have these fields automatically filled in.

[F7] Not yet implemented

[F8] Toggles full screen memo field mode on and off. Press it to access the full screen. Press it again to return to the regular display. (See page 1-12)

[F9] Saves the field and goes on to the next available field.

[F10] Saves the data and exits to the menu bar from any field in the current record.

Special Keys and Key Combinations

M Return to the main menuN Return to the list of projects

Return to the opening menu or quit the QC module if you are already there.

[Esc] From a menu or input screen not in Add, Edit or Update, Esc moves backwards one level. During Add, Edit or Update, Esc cancels the entry. It deletes a record that was being added or restores the previous data to an existing record.

[Ctrl] + Y Deletes the current row in a memo field [Ctrl] + T Deletes the current word in any field

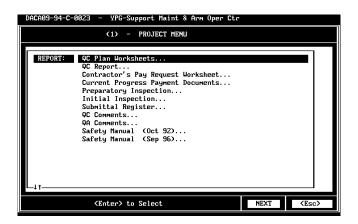
[Alt] + [F6] Accesses the Calculator [Alt] + [F7] Accesses the Calendar [Alt] + [F8] Accesses the Phone Appointment table [Alt] + [F9] Shells to DOS; type **EXIT** to return to RMS

[End] Moves the cursor to the far left of a data field or to the top record in a list.

Moves the cursor to the far right of a data field or to the bottom record in a list.

The Report Option

The Report option can be accessed from any menu or submenu and from most input screens. It has a menu structure similar to the main menu structure. Depending on the report, the output will be directed to either the screen or the printer. Some reports have both choices. You can request multiple copies of any report sent to the printer.



Report Access

Follow the next several screens for an example of how the report menu system works.

Reports Topics

From the main menu, press **R** for Report and you are shown the report topics available.

An ellipsis (. . .) after a topic indicates that an additional menu of choices is available.

Select QC Plan Worksheets.



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QC Planning

This report menu mirrors the data entry menu choices. You also have the choice of All QC Worksheets at the top of the list.

Note that at each report level you can see the titles of the previous levels, allowing you to keep track of where you are.

To go back one level, press [Esc].



ready to print.

Choose the Report Type

The Data Filled Worksheets choice prints a report of the QC information already entered on this topic. Blank Worksheets prints a blank form for use in collecting the necessary data.

On this screen there are no more ellipses, indicating we are



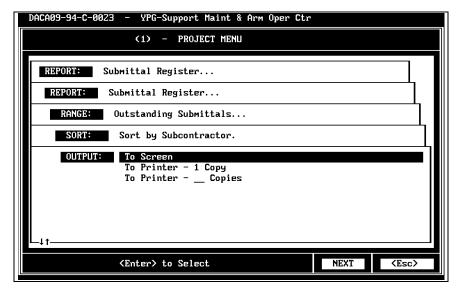
Choose the Output

Some reports will have a To Screen choice as well.

NOTE: The Next command is available on the menu bar so that the same report can be printed for another project.

In the above example, the first three choices are labeled Report. Each choice further defines the report. Your last choice is the Type of report you want printed. Sometimes you will have these additional choices as well:

Style: Kind of information you want included in this report
Range: Subset of the data such as date range, feature numbers, outstanding items
Sort: Order in which the data will print, for example, outstanding submittals can be
sorted by section, activity, subcontractor, date and other ways



Range, Sort Example

Range and Sort choices are illustrated here.

Another Range choice for this report is Outstanding Submittals Due in *X* days . You can input the number of days on which to report.

Printer Not Ready

If your printer is off-line, out of paper, or not connected, this message appears indicating an error: Something is wrong with your printer. Possible lack of paper or off-line. Do you

QC Module Basics

want to retry? Yes $\;$ Either fix the problem and press [Enter] to retry or type N to end the printing.

CHAPTER 2: EXCHANGING DATA

Overview

The QC module allows the contractor to exchange data electronically with the government. There are two general periods: Initial Planning/Scheduling and Contract Progress. An overview of each follows.

Contract Period QC Planning and Contract Scheduling:

- 1. Government: **WARNING:** Design work must be complete and all data entered into RMS while the project is still in the Future stage, before work with the QC module begins. Otherwise, data may be overwritten. When the design work is complete, export the data to the contractor. A complete copy of the project must be included on the first export, so use the Add/Overwrite QC Project with Gov t Data choice. This data can then be used as the starting point for the contractor's own planning. The Award Appropriation and Award Bid Items must be entered and exported before the contractor can complete pay activity entry.
 - 2. Contractor: To import a new project, use Add from the project selection menu.

To import data for an existing project, choose that project then press I for import. Use the QC module or other planning software to do the QC planning. When entering pay activities, be sure the bid item numbers are exactly the same as those used by the government. Pay particular attention to leading zeros, number of digits and justification. Data can be exported in SDEF (see note below) from other planning software and either imported into the QC module or given directly to the government.

3. Government: Import the contractor's data. Changes made by the contractor are

placed in a Pending directory and do not overwrite any existing data in RMS until approved by the Government. Additions do not require Government approval with the exception of pay activities which must be approved or disapproved by the Government. To review and approve/disapprove the imported changes, select the Contractor Proposed Changes option for QC Planning and/or Activity schedule. All Changes can be approved in one step or optionally each change can be approved/disapproved seperately. Export the data to the contractor. The approvals and disapprovals as well as changes made by the Government will be included in the export.

Repeat steps 2 and 3 until the contractor planning work is complete. Once the planning and scheduling are complete and the actual work has begun, the data entry switches to the ongoing work of the construction.

NOTE: For information about software that meets SDEF format requirements, see Project Management Plans (2) (1) (5), Contractor Guide Corps Project Schedule, Topic Submitting the Data Disk.

Contract Period Contract Progress: Daily QC Reports, Payments and Transmittal Log:

- 4. Contractor:Import qa dailyt update data from the government. Enter any data for the daily report, payments or transmittals. Check for items returned by the government, e.g. QC requirements that have been reissued. Export the data to the government; include in the export only those items which have been changed. A printed, signed Daily QC Report must also be included and is the official legal document.
- 5. Government:Import and review the QC report, pay requests, and transmittals from the contractor. This data does not require approval and is copied directly into the project files. Enter the government's daily report, mods and payments processed, submittals approved, etc.

Export the data to the contractor. Include Libraries only if changes have been made to them. The add/overwrite QC Project option should be used only when the Contractor needs a complete copy of the project data from the Government system. ALL QC DATA WILL BE OVERWRITTEN.

Repeat steps 4 and 5 on a regular basis for the life of the project. Disk exchanges are done according to the needs of the project, but the more frequent the exchanges, the better. Some projects have daily or even twice daily exchanges.

General Guidelines

- 1. If the government makes changes to the contractor's data, they will overwrite the contractors data unless the contractor has also made changes to the same data.
- If the contractor is using planning software other than, or in addition to, the QC module, any government changes must be manually entered into that system so that it stays current.
 Import and export only the data that you need. This is quicker, takes less disk space and decreases the margin for error.

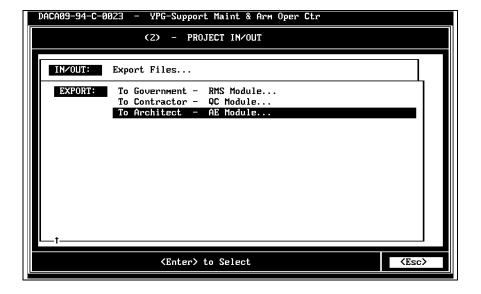
Steps to Importing or Exporting

These are the basic steps for importing and exporting data in RMS, the AE Design module and the QC module. Import and export screens for each system are shown along with a list of the possible import/export choices.

- 1. Choose the project with the data to import or export.
- 2. From the main menu or any module menu, type **I** or **O** for In/Out to access the Import / Export menu.
- 3. Choose either Import Files or Export Files and the entity who is receiving or sending them.
- 4. To export, select the data to export and insert a disk. The export must be done to an empty disk, so either use a clean disk or one whose data can be erased.
- 5. To import, first insert the disk so RMS (AE or QC) can read the contents. Then select the files to import from those found on the disk.

RMS Export Screen

From RMS, you can export to each of the three systems listed. The type of data that can be exported is listed beside the screen.



To Government: Submittal Register

To Contractor:Daily QA Update Daily QA Update w/Libraries

To Architect:All A/E Planning Submittal Requirements

New Projects: QC module

The only way to add a new project in either the QC modules is to import the initial data from RMS. When you choose Add from the list of projects, the following screen appears.



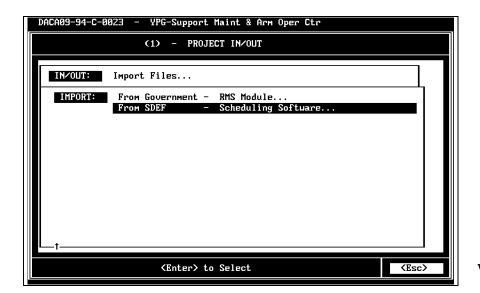
New Project Import Screen

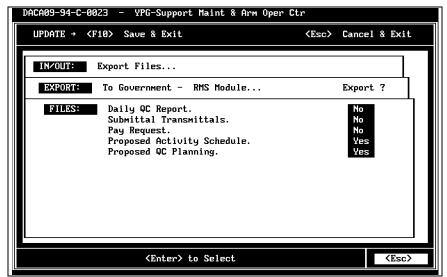
This is the screen for the AE Design module.

The QC module reads, To Add a new Project, you will need to Import the Add/Overwrite QC Data disk from the Government.

QC Module Import Screen

A new project must be added with an import disk from the government as described earlier in the AE Design section. For an existing project, you can import from either the government or from SDEF scheduling software. The types of data are listed next to the screen.





From Government:

Daily QA Update
Daily QA Update
w/Libraries
Add/Overwrite QC
Project Data

From SDEF:

Pay Request on Current Activities Proposed Activities with Schedule Update

QC Module Export Screen

From the QC module, the only export is to the government.

However, you can choose which data to export. The choices are shown here.

Automated QC Data Exchange

The process of exchanging QC data with the contractor has been designed to be as automatic as possible requiring almost no intervention by the contractor and a simple approval process by the Government. While using the QC module, all importing is handled automatically by the system. No approval or disapproval is required by the contractor.

CHAPTER 3: PROJECT PLANNING AND MANAGEMENT

Overview

Project Planning encompasses all of the initial data on a project: the contractor and subcontractor information, features of work, pay activities, quality control requirements and submittal requirements.

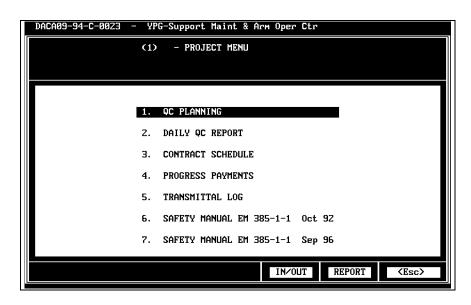
A QC module export disk is created from the government RMS and given to the contractor. The contractor submits the QC plan, the government representative reviews it and adds the QA planning information. The QC/QA planning process is interactive and may be done in several stages.

Reports

Data-Filled Worksheets: For each menu choice under Project Planning, you can print a worksheet that shows all of the data entered.

Blank Worksheets: These sheets can be used to collect the data for this section. All required input is shown on the worksheets.

(1) (1) QC Planning



Choose *QC Planning* from the project main menu.



QC Planning Menu

Subcontractors, features of work and pay activities can be imported in SDEF format from other scheduling software.

(1) (1) (1) Contractor Staff

There are four screens for this data entry item (see upper right corner). They are edited one at a time, that is, press **E** or **U** on the first screen, make your changes and press [F10]. Then press [PgDn] to access the next screen. Most of the information is self explanatory.

Screen One: The responsibility code defaults to 0001 but can be changed. Enter the name, address and phone exactly as they appear on award documents. Also, make sure the payee name and address are correct.

Screen Two: Category assignments indicate which work the QC staff member is responsible for inspecting. It is a lookup field.

Screen Three: If the contract is administered by the SBA, the blocks on the third screen should be entered as Yes. The Small Business Administrator should be the SBA representative authorized to sign modifications, such as the SBA contracting officer.

Screen Four: Indicate the scheduled work days.

(1) (1) (2) Subcontractors

Add a record for each subcontractor, entering the name, trade, address, POC and phone numbers. These are needed to track contractor documents and to relate activities and submittals to the contractor doing the work. They are also used for contact information on warranty issues after contract completion. The responsibility code is assigned by the contractor for each sub and must be unique. Trades is a lookup field.

(1) (1) (3) Features of Work

Features of Work are general categories of construction work that are referenced in the contract specifications. A feature can also be thought of as any phase of work requiring a preparatory inspection. At this point, you will enter only the feature and the schedule for the initial inspection (entered as days after the preparatory).

Features may be selected from the lookup table. If the table does not have the feature you need, you can type it in yourself. It is important that both the contractor and the government have a clear understanding of the type of work the feature represents.

(1) (1) (4) Pay Activities

Pay Activities are defined as the activities from the project NAS, bar chart or other method of scheduling the work. They include the items on which a contractor is paid. The sum of those activities must equal the current contract amount. (Lower section of screen provides running totals.)



Quantity

NOTE: Entering pay activities correctly is critical. The progress payment option will not allow payment when either the activities assigned to a bid item exceed the bid item amount or when the sum of all the activities exceeds the total contract amount.

Pay Activity Screen

Add activities for each

bid item until the Sum of Activities field on the right equals the amount designated for the bid item.

Continue through all bid items until the Sum of Activities field on the left equals the amount of the contract.

To speed data entry, use the [F6] Carry Over key for the feature, subcontractor, project area, contract phase and work category fields.

Activity # Assign a number to each activity

Description Self explanatory

Bid Item # 1 **Lookup** Appropriate bid item for this activity

Determined by bid item; usually defaults to 1.00 LS (lump sum); when the bid requires a quantity, enter the number.

Amount The dollar amount for this activity. For a lump sum, enter the amount. If a quantity is entered above, this

amount will be calculated.

Exchanging Data

Feature

Lookup Select the appropriate feature from the lookup table. From this

data, the QC module schedules the preparatory/initial inspections.

Subcontractor

Lookup Subcontractor performing

the work

Project Area of project for activity, e.g., Sta No., Bldg, Room

Contract Phase Phase to which activity is connected, if applicable

Lookup Trade associated with this activity

Duration Number of working days planned for this activity

Current Contract Display Current contract amount

Sum of Activities Calculated Running total of the

activities entered

Variance Calculated Balance of current contract remaining for other

activities

Bid # ___ **Display** Amount designated for the bid item
Sum of Activities **Calculated** Sum of the activities for the current bid item
Variance **Calculated** Balance of bid item remaining for other activities

(1) (1) (5) QC Requirements

There are four types of QC Requirements:

User School

QC Testing

Work Category ↑

Property
Installed
Property
Choose the type of
requirement to enter or
choose All QC
Requirements to enter
more than one type at
the same time.

Transfer

User
School/QC Testing
Entry Screen

This is the User School

screen.

On the QC Testing screen, the first field is labeled QC Testing #, but otherwise the screens are identical.

Required for Activity

Req Lag/Lead Days



Lookup Activity requiring this item. When an activity is attached to the requirement, the pay request worksheet will show whether or not that requirement has been met.

 - days = lead time = item is required X days before activity starts

+ days = lag time = item is required no later than X days after activity starts

Perform By Who will conduct the school or testing Description Description of the school or testing

Transfer Property Entry Screen

Transfer property includes keys, tools, spare parts and similar items that will be transferred to the contractor during construction or to the customer at the end of the

project.

It may also include property furnished by the government.

Transfer # Automatically filled in with TP and the next sequential number Section 1 Lookup Specification section number where the property is referenced

Paragraph Specification paragraph number

Required for Activity

worksheet will show whether or not that requirement has been met.

- days = lead time = item is

Req Lag/Lead Days

- days = lead time = item is required X days before activity starts

+ days = lag time = item is required no later than X days after activity starts
 Who will be transferring the

Lookup Activity requiring this item. When an activity is attached to the requirement, the pay request

who will be transferring the property

From

To Who will receive the property Type Category of property being transferred

Unit [↑] Required / Lookup Unit of measure

Unit Cost Self explanatory Total Units Self explanatory

Transferred Units How many have been transferred to date

Remaining Units Calculated

Description Description of the property

Exchanging Data



Installed Property Entry Screen

Installed property includes light and plumbing fixtures, smoke detectors and similar items that will be installed as part of the project.

Installed # Automatically filled in with IP and the next sequential number **Lookup** Specification section number where the property is referenced Section ↑ Paragraph Specification paragraph number Number of units Quantity Unit ↑ Required / Lookup Unit of measure Unit Cost Self explanatory Required for Activity **Lookup** Activity requiring this item. When an activity is attached to the requirement, the pay request worksheet will show whether or not that requirement has been met. Req Lag/Lead Days - days = lead time = item isrequired X days before activity starts + days = lag time = item is required no later than X days after activity starts Location of Property Brief description of where property can be found Description, etc. Self explanatory

Self explanatory

Capacity, etc.

(1) (1) (6) Submittal Requirements



The contract specifications include a skeleton submittal register but the contractor may add more items to it. The contractor may also delete items that may be inappropriate due to construction processes or techniques to be used by the contractor.

Submittal Requirements Entry Screen

The [F6] Carry Over key can be used to speed data

entry on several of the fields on this screen.

To add additional submittals, type **A**.

Section [↑] **Lookup** Specification section number that requires the submittal; cannot be changed once record is saved

Item # Automatically filled in sequentially

by section number; cannot be

changed once record is saved

Paragraph Specification paragraph number

Submittal Type **Lookup** Submittal type, e.g. drawings, certificates, manuals Information only Y for Yes or N for No; a No entry will indicate government action is required.

Gov't Review Time

Required for Activity

Display The review time established by the government; cannot be changed in the QC module.

Description A brief description

Reference QC Req 1

Lookup If applicable, choose from the QC requirements entered for this project

Lookup Activity requiring this item. Attaching a submittal to an activity is important. The activity start date, along with the material

Exchanging Data

procurement and lag/lead time, determines when a submittal is due and what dates print on the submittal register. It must be attached to the associated activity with the earliest start date and the activity selected must be a pay activity with dollars attached. Number of days anticipated for

Material Procurem't

receiving the material on-site after
Time approval of shop drawings

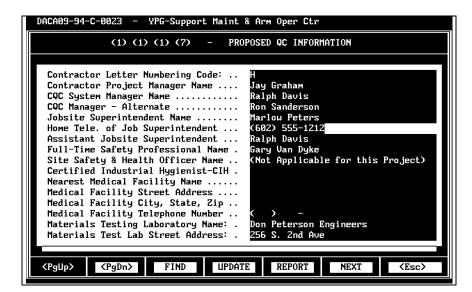
Material Needed

 - days = lead time = material is required X days before activity starts

+ days = lag time = material is required no later than X days after the activity starts

(1) (1) (7) QC Information

The QC Information choice allows a contractor and the government to track information not otherwise included in the QC module.



QC Information Screen

Enter the information requested. If a help message has been entered for the field, you can access it by pressing [F1].

(1) (2) Daily QC Report

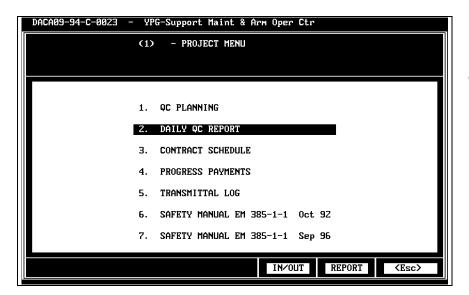
Overview

As a project progresses, daily reports are made by both the contractor and the government. These reports include activities started and completed, inspections made, QC requirements met, problems encountered and a variety of other information. The Daily QC Report option provides a place to enter all of that data.

Reports

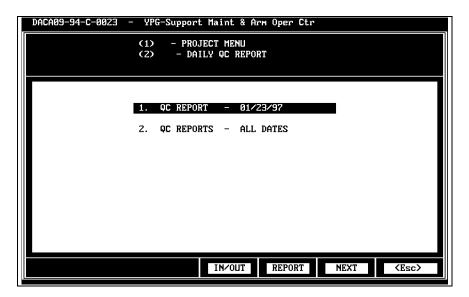
QA Comments/QC Comments: Comments can also be selected in a variety of ways and either viewed on the screen or printed.

QC Report: This prints the QC report for either the current date or a selected date range. Preparatory and Initial Inspection Checklists: These checklists, for a specified feature or all features, print the QC requirements and checks for each feature activity.

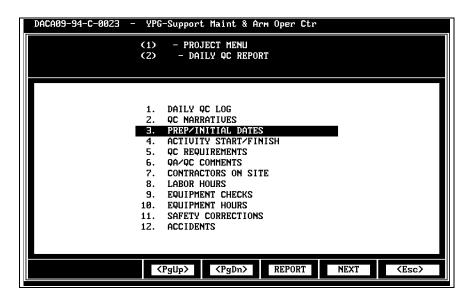


Choose *Daily QC Report* from the main menu.

The submenu shown below will appear, allowing you to choose a particular date or All Dates.



Choosing a particular date lets you enter data for that day only. The date is automatically entered on each screen and you will see only outstanding or incomplete tests, inspections, activities, etc. for that date. This makes it easier to find a particular item. If you choose All Dates, you have access to all data entered.

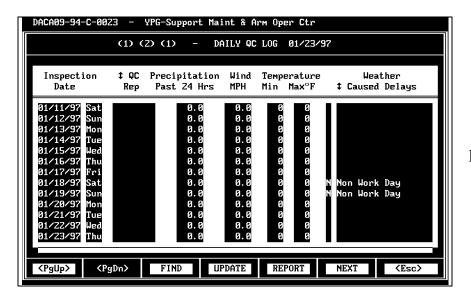


Daily QC Report Menu

The Daily QA Report in RMS has several options parallel to these.

Interactions between the two will be noted.

(1) (2) (1) Daily QC Log



QC Log Entry Screen

The daily log allows the contractor to record important weather information.

Each date of the project is automatically listed with blank fields for the data.

QC Rep Fill in the QC rep

Precipitation Inches of rain; defaults to zero if not entered

Wind MPH Wind that affected the project work; defaults to zero if not entered Self explanatory; if not entered, a zero will show on the screen but the actual data field will be blank.

Weather Delays

Lookup Code for effect of weather on project. When a weather code is entered, the description is automatically entered in the next column

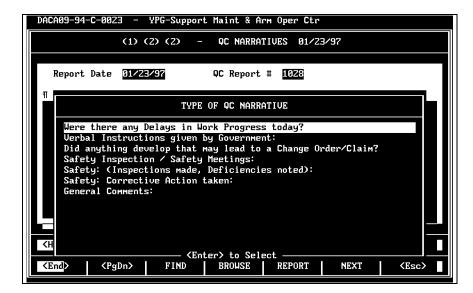
(1) (2) (2) QC Narratives

Narratives allow a wide variety of text to be entered and categorized. Some examples are:

Verbal instructions given by the government

Results of safety inspection

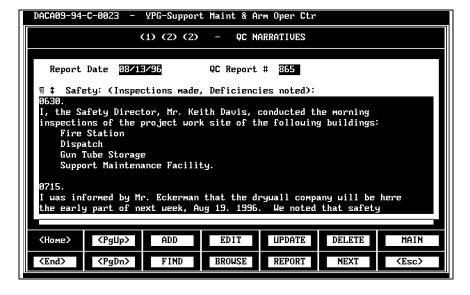
Delays in work progress



QC Narrative Add Screen

Type **A** for add and select the type of narrative.

Typing the first letter of the narrative topic will take you to the first occurrence of that letter. For example, typing **V** will move you to the Verbal Instructions topic. You can also use the arrow keys to move to the topic.



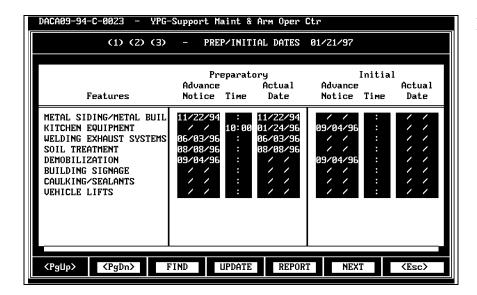
QC Narrative Screen

If you're using the All Dates option, enter the date. The Report # is automatically numbered with the day of the project, with Day 1 being the day after the NTP date. If you do more than one narrative for the same day, they will all have the same report number.

The type of narrative you've selected will be shown as the label for the memo field. Type in the text of your narrative; it can be as long as you wish. Pressing [F2] on this field accesses an import/export text function. This allows you to write your narrative in a word processor then import it or to export a narrative and make it a part of a larger report. Text to import must be in ASCII format. Exported text is saved in ASCII format in the main QC directory (C:\QC in a default installation).

(1) (2) (3) Prep/Initial Dates

Record Prep and Initial Inspection data on this screen. Features listed here were originally entered in (1) (1) (3). The Prep and Initial Inspection data is included on the pay request worksheet for those features attached to activities for which payment has been requested.



Each feature of work will be listed with fields for the dates and times. Enter the advance notice date and time, then the date held for the preparatory inspection. Do the same for the initial inspection. If you are entering data for a particular date, only features with blank dates will be shown. If you choose All Dates, every feature will be listed.

(1) (2) (4) Activities Start/Finish

Record actual activity start and finish dates here. Activities listed here were originally entered in (1) (1) (4).

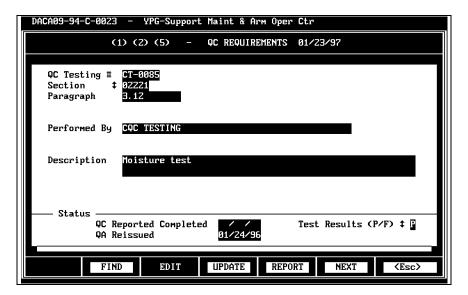


Enter the start and finish dates of each activity.

If you are entering data for a particular date, only activities with blank dates will be shown. If you choose All Dates, every activity will be listed.

(1) (2) (5) QC Requirements

QC requirements appear on this QC module list until they are updated and reported complete (with a passing grade if the requirement is a test). They are then a part of the data exported to the government for verification. If the requirement complies, that requirement is officially complete. If the requirement is reissued, it will reappear on this list at the next import from the government and the cycle repeats. The QC requirements listed here were originally entered in (1) (1) (5).



Choose *QC Requirements*

Choose from the list of QC types:
All QC Requirements
User School
QC Testing
Transfer Property
Installed Property

Use [PgDn] to scroll through the requirements or use the FIND key to locate the requirement by its number.

All the data on the requirement is shown for your reference. Use Update to enter the date the requirement is reported completed. If you are reporting on a QC test, you will also type **P** for pass or **F** for fail.

If the requirement is reissued by the government, the QC Reported Completed date will be blanked out and the reissue date will be shown underneath (as shown in the above illustration).

(1) (2) (6) QA/QC Comments

When either the contractor or the government notes an item that needs attention, a comment can be issued and tracked. This comment is placed on a list to be corrected and verified.

If the contractor issues the comment, all entry is done in the QC module and is the contractor's responsibility. It serves as the deficiency tracking system required by the contract. The flow is:

Enter the comment

Choose *QA/QC Comments*.

Then choose *QC Comments*, press **A** to add a comment, and type in the information. Correct the situation and report it done.

Choose *QA/QC Comments*.

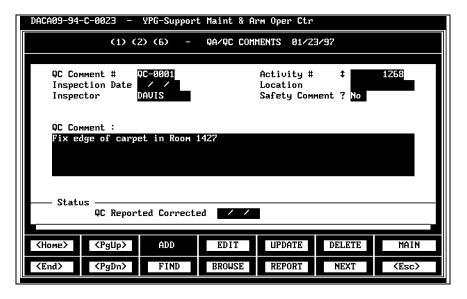
Then choose *Report QC Comments Corrected by CQC*, press **U** to update, and enter the date the problem was corrected.

If the government issues the comment, it will appear the QA Comment list. The contractor will correct the problem and report the date it was corrected. The government will then verify the correction. The flow is:

A QA comment is reported to the contractor who then remedies the situation. Choose QA/QC Comments.

Then choose *Report QA Comments Corrected by CQC*, press **U** to update, and enter the date the problem was corrected.

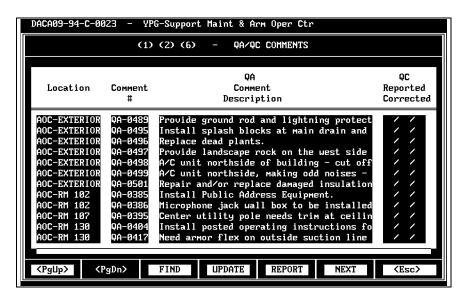
If the government reissues the comment, it must be corrected and reported again.



QC Comment Entry Screen

This is an example of a QC comment that has not yet been corrected.

The correction date can be entered on this screen or on the Report QC Comments Corrected screen (similar to the QA screen shown on the next page).



QA Comment Correction Screen

The date is the only entry on this screen. All other fields are display only.

The QC Comment Correction screen is similar.

(1) (2) (7) Contractors On Site

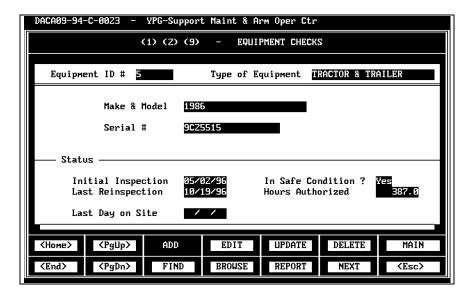
The names and trades of the prime contractor and all subcontractors are carried over from QC Planning (1) (1) (1 and 2). By updating the first and last dates each one will be on the job site, the contractors' insurances and payrolls can be tracked.

If a subcontractor is attached to each activity, expired insurances and problem payrolls will appear on the pay request worksheet for activities requested for pay.

(1) (2) (8) Labor Hours

On this screen you can record the number of hours of work by each subcontractor and labor classification. When you do the first add of the day, you are given the choice to copy the data from the previous day or to enter data manually. Many of your contractors and workers will be the same for a period of time so copying from the day before and making any necessary adjustments can save much time.

(1) (2) (9) Equipment Checks



Equipment Entry Screen

Add each piece of equipment to be used on the project. These entries form the lookup table used for Equipment Hours.

Update this screen with inspections as they occur.

(1) (2) (10) **Equipment Hours**

Equipment hours are tracked in a similar way to labor hours. Choose the Equipment ID from the lookup table; the type, make and model will be filled in for your reference. You can also copy from the previous day and make adjustments.

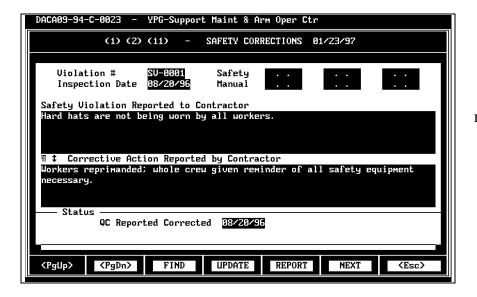
(1) (2) (11) Safety Corrections

Safety violation entries can only be initiated by the government. There are three steps when a safety violation has been identified and reported.

- 1. The government notices a safety violation and records it in RMS. When government data is imported, the violation appears in the QC module.
 - 2. The contractor corrects the violation.

Choose *Safety Corrections*. A screen appears showing the violation reported. The government entries are display only and cannot be changed. Use Update to enter the corrective action taken and the date the correction took place. At the next export to the government, this action will be communicated.

3. The government verifies that the correction has been made. If the violation is reissued, it goes back to the contractor for further action.

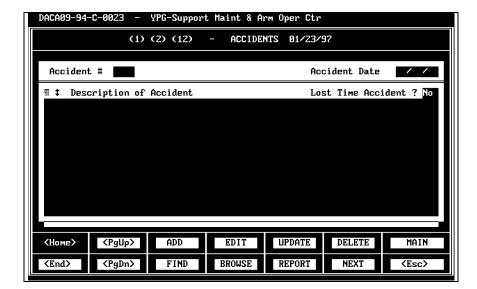


Safety Violation Entry Screen

This screen shows a violation that has been reported to the contractor and corrected.

(1) (2) (12) Accidents

Accident entries are identified and reported by the contractor. In addition to this entry, the contractor must provide an Eng Form 3394 with a full report.

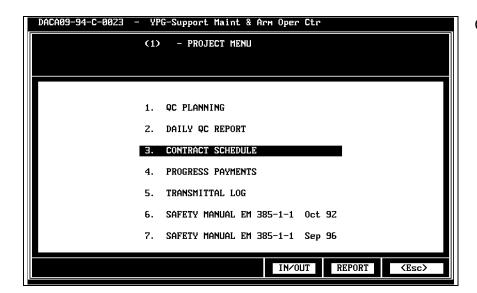


Accident Reporting Entry Screen

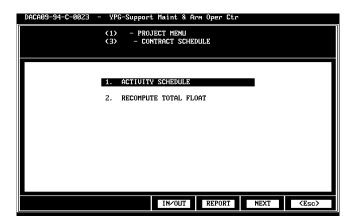
(1) (3) Contract Schedule

Overview

The Contract Schedule choice shows the start and finish of activities, both early and late, and the total float time. As in QC Planning, there is the interplay between the Proposed and Approved data.



Choose *Contract Schedule* from the main menu.



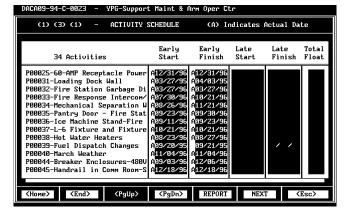
Contract Schedule Menu

This menu is similar to the menu for QC Planning (1) (1) (3). The review/copy principles are the same.

(1) (3) (1) Activity Schedule: The contractor's entry is done from this menu choice, which provides a quick overview of the activity schedule. The (A) indicates an actual date; these are carried over from the Daily QC Report (1) (2) (4).

Early start and late finish dates are entered here. They are used for scheduling submittals and other requirements.

Early finish and late start dates will be calculated from the duration entered for the activity in



(1) (1) (1) (4). Total float is calculated based on the dates entered.

(1) (3) (2) Recompute Total Float

This option recalculates the total float days based on today's date.

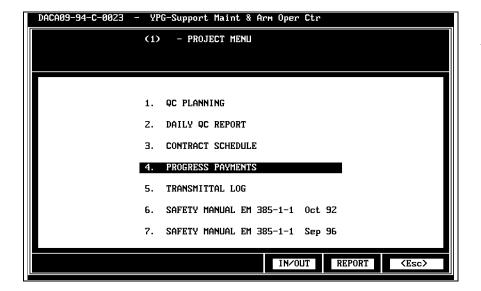
(1) (4) Progress Payments

Overview

Progress payments allows you to create a pay request, based on the percent of work completed. Each month, export your data to the government so that your QA representative can set up your next payment number. After you import back from the government, you are ready to prepare your pay request.

Reports

Contractor's Pay Request Worksheet: This can be printed either with or without the requested percentage entered. Any missing insurance or payroll documents, missing QC requirements, unverified tests, uncorrected QA comments and so on are listed.



Choose *Progress*Payments from the main menu.

Screen 1 appears displaying the pay estimate number and asking for some initial information, detailed below.

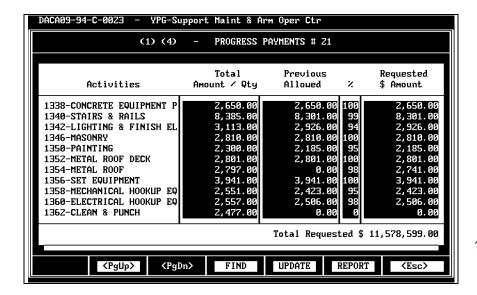
Est Amt of Stored Matl

The amount of stored material on site and being claimed on this payment

Include Activities Previously Paid 100% Yes or No; defaults to Yes (recommended)

If you enter No, the total on the next screen will not add up to the total request.

When this information has been provided, the QC module will process the request and present you with Screen 2, a list of activities (either all or those not fully paid). The following illustration shows all activities, even those that have already been paid 100%.



Pay Request Entry Screen 2

The % and Requested \$
Amount columns
represent cumulative
figures. For example, if
a you have been paid
50% of a \$1000 activity
and are now requesting
an additional 25%, the
percent entered would be
75% (50%+ 25%) and the
requested amount will be
\$750.

Activities Display There is one line for each activity
Total Amount/Qty Display Carried over from activity record
Prev Allowed Display Carried over from previous pay requests
Quantity / % Enter the requested quantity or percent (whichever is applicable)
Requested \$ Amt Enter the dollar amount (cumulative to date)

NOTE: You can either enter the quantity/percent figure or the dollar figure. The corresponding figure will be adjusted accordingly.

Total Requested Display Sum of Requested \$ Amt column; as you enter requests for the activities, this total will change.

NOTE on Total Requested Field: If you included activities previous paid 100%, the total requested amount should match the total requested earnings to date. If you did not include them, the total will consist of only the amounts for those activities paid at less than 100% (the total of the column).

(1) (5) Transmittal Log

Overview

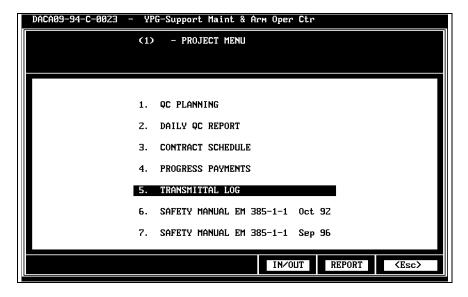
Basic submittal requirements, such as certificates, test reports and manuals, are entered as part of the planning information. Additional data is entered as the contractor's planning is completed. The Submittal Register allows you to track a submittal from the time it is received through the approval process.

Submittal items are sent with a cover sheet called a transmittal, or Eng Form 4025, on which the items are listed.

Reports

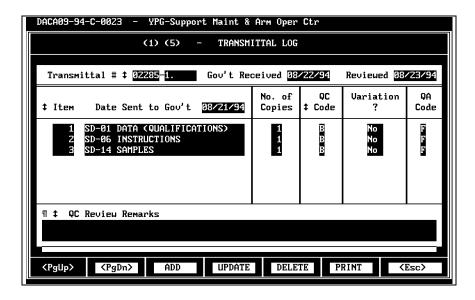
Submittal Register (Eng Form 4288): The form can be printed for all submittals, or only those that are outstanding or overdue.

Transmittal Sheet (Eng Form 4025): Each transmittal sheet can be printed.



Choose *Transmittal Log* from the main menu.

NOTE: Have the submittal register available for reference.



Transmittal Log Entry Screen

This screen shows a transmittal that has been sent to the government, reviewed by the QA representative, and coded as Receipt Acknowledged.

To create a new transmittal:

- 1. Choose *Transmittal Log*.
 - 2. Type **A** to add.
 - 3. Enter these fields:

Transmittal # Enter the appropriate section number (or choose from the lookup). Then enter the transmittal number.

Gov't Received **Display** An entry appears here when the data has been exported to the government and imported back after the government review.

Reviewed **Display** Same as above Date Sent Self explanatory

Item
Lookup Choose from the items entered for that section

Submittal Display A description of the submittal from the register is automatically

displayed

No of copies How many copies were submitted; defaults to 1

QC Code

Lookup Approval code from the contractor; defaults to A (Approved)

Variation A requested variation on a submittal item must be fully explained and

A requested variation on a submittal item must be fully explained and justified. Use the QC Review Remarks area to fully explain the reason and

details of the variation.

QA Code **Display** An entry appears here when the data has been exported to the government and imported back after the government review.

Press [Enter] after the code to record another item on the same transmittal.

QC Review ¶ ↑ Memo/Lookup Text may be typed in this field or an ASCII text file may

Remarks be imported with the lookup command (see page 1-12). This data will print out on the Eng Form 4025 and a continuation sheet if required.

After all entry is complete, use the [Print] command to print the Eng Form 4025 for this transmittal.

(1) (6 and 7) Safety Manual

Both the Oct 92 and the Sep 96 safety manuals are provided for your reference. Only the version specified in your contract should be used.

Under Reports, you have the capability to search for keywords in the text of the safety manual. For example, you could search for asbestos to find out the safety requirements when dealing with asbestos removal.

CHAPTER 4: FILE MAINTENANCE

This chapter outlines the process by which routine file maintenance is done. You will learn:
how to choose files for reindexing and restoring
how and why to reindex files
how and why to backup and restore files



File Maintenance Choices

In the QC module, the file maintenance choices are on the opening menu.

NOTE: The [Esc] key will stop any file maintenance function if you decide you don't want to continue.

NOTE for network users: If you are running in a multi-user environment, you cannot reindex, backup or restore while anyone else is using the QC module. Have everyone exit before you begin any of these three operations. To avoid inconvenience, you might want to do these operations before or after office hours.

Choosing Files

When you reindex or restore, you can choose from the list of files. Follow these steps:

- 1. Choose *Reindex Files*. The steps for *Restore Files* are slightly different.
 - 2. You will be given this list from which to choose:

User Selected Files . . .
All Projects
All Files without Libraries
All Files

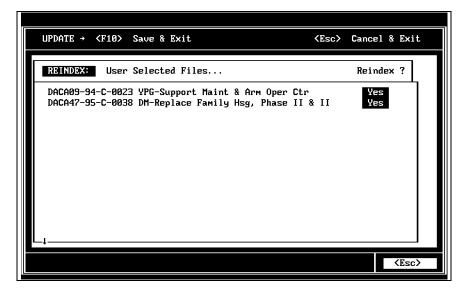


User Selected Files Menu Screen

If you choose User
Selected Files, you will
be given this screen from
which to select your files.
Type Y for each type
file that you want.

Summary, Office and Library Files are listed for compatibility with RMS and have no application in the QC module.

The project choices all have further choices available as shown on the next screen.



Project Selection Screen

Choose the projects by typing **Y** by each one you want.

Press [F10] when you are finished to return to the previous screen. Choose additional files in the same way.

Press [F10] again to exit the User Selected Files screen.

(2) Reindex Files

Why: Reindex your files whenever your data appears to be out of order, missing information or otherwise corrupted. Often, reindexing will solve the problem. If it does not, the next step is to run QCUPDATE, the data validation program (see page 1-5).

How: Follow the steps under Choosing Files above. When you press [F10] to exit the User Selected Files screen, reindexing begins. You will be shown a % Complete bar so you can visually follow the progress. The time it takes to reindex depends on the speed of your computer and the size and number of your projects, varying from a minute or two for a single small project to 10-60 minutes or more for all your files.

(3) Backup Files

Why: Backing up your data insures that you will not lose your office's important information. How frequently you do backup depends on how much you use the QC module, but the general rule is to backup anything you would not want to do over. Each office will set its own guidelines for data security and some offices may have an alternative, such as a tape backup system.

You should backup all your projects whenever you upgrade the QC module. You may also use the Backup Files option to transfer data from one computer to another.

How: There is no file selection for the Backup option all files are backed up whenever you choose this option. You will be asked to insert a disk in drive **A**. Press [Enter] if you will be using drive A or type **B** then [Enter] if you will be using drive B. If the disk you use is not blank, you'll be asked if you want to erase the existing files. Answer Yes to erase them; answer No to use a different disk.

You may need more than one disk for the backup. Label the disks with the date and the disk number, if more than one disk is used.

NOTE for network users: Backup can be done to a network drive by entering the desired drive letter instead of A or B. You will then be asked for a path and filename. The path is the directory you want to use and the filename can be any descriptive eight character name, e.g. G:\QCBACK\DATA0115, with DATA0115 meaning the Jan 15th backup. Any naming system can be used, as long as all personnel use it consistently.

WARNING: Data backed up to another directory on the same network drive provides a safeguard against damage to the original files but DOES NOT protect against a complete failure of that drive. Be sure this is not your only backup.

(4) Restore Files

Why: You may need to restore files to:
transfer data from one computer to another
replace damaged files
start over when a large set of data has been entered incorrectly

How: When you choose *Restore Files*, you will be asked to insert a disk in drive **A**. Press [Enter] if you will be using drive A or type **B** then [Enter] if you will be using drive B. A screen will appear showing you the office name where the backup was done and the backup date and ask you to confirm using this disk. Press **Y** to continue.

Proceed to step two under Choosing Files to select the files to restore. If you know you want to restore all the projects, or if there is only one project, a quick way to get started is to select All Projects. If you choose User Selected Files, you will only be shown the files contained on the backup disk. When you press [F10] to exit the User Selected Files screen, the chosen files are restored.

Files are reindexed automatically after they are restored. If you restore data from an earlier version, the QC module will let you know you must run QCUPDATE before using the system again.

NOTE: Data cannot be transferred to or from the government with Backup and Restore. You must use the import and export functions for that purpose.